In the Claims

A complete listing of the claims follows immediately hereinafter.

1-41. (canceled)

42. (currently amended) A method for detecting a presence of at least one of a wildfire and an electrical arc burning proximate to Earth's surface, said method comprising:

selecting a detection wavelength that is emitted by the wildfire and said electrical arc and which transmits in a first way at the Earth's surface as a result of a first ratio of oxygen compounds proximate to the surface of Earth, but which detection wavelength transmits in a second way in Earth's stratosphere based on a second, different ratio of oxygen compounds present in Earth's stratosphere;

using a detection arrangement positioned such that the detection wavelength travels from said wildfire to the detection arrangement in the presence of said first ratio of said oxygen compounds and so that sunlight arriving at said detection arrangement travels through Earth's stratosphere so as to subject the sunlight to said second ratio of oxygen compounds in a way which attenuates content of the detection wavelength[[,]] in the sunlight; and

configuring said detection arrangement to respond at the detection wavelength so as to enhance a detection response to the wildfire while attenuating the response to the detection wavelength [[to]] in the sunlight based on said first and second ratios of said oxygen compounds.

43. (currently amended) The method of Claim 42 wherein ~~configuring said detection arrangement includes providing an antistatic coating on said detection arrangement~~ the detection wavelength is selected within a wavelength range between 230 and 280 nm, which wavelength range is (i) contained by sunlight, (ii) substantially blocked when the sunlight passes through the Earth's stratosphere and (iii) travels through the atmosphere at the surface of the Earth so as to provide for a high sensitivity of said detection arrangement to said wildfire and said electrical arc.

44. (currently amended) The method of Claim ~~42~~ 43 wherein said detection arrangement ~~exhibits a given response at a maximum rated bias voltage when exposed to said detection wavelength, and wherein configuring said detection arrangement includes applying an operating bias voltage which is higher than said maximum rated bias voltage~~ is configured for a high sensitivity to the wavelength range between 230 nm to 280 nm and for a reduced sensitivity to a wavelength longer than 280 nm such that the detection arrangement is essentially solar blind above 280 nm where said reduced sensitivity is less than said high sensitivity.

45. (currently amended) The method of Claim ~~42~~ 44 ~~further comprising generating an intermediate output responsive to said detection response in a way which tracks a trend in the detection response~~ including configuring said detection arrangement to include a wide angular sensitivity.

46. (currently amended) The method of Claim ~~45~~ 43 ~~wherein said detector intermediate output is generated responsive to said detection responses occurring within an event window that continuously terminates at present time and extends backward therefrom by a selected time duration~~ including configuring said detection arrangement with a sensitivity

within the 230-280 nm band that is at least 25 dB higher than at 280 nm and 100 db higher than at 320 nm.

47. (currently amended) An apparatus for detecting a presence of at least one of a wildfire and an electrical arc burning proximate to Earth's surface, said wildfire and said electrical arc being characterized by a wavelength that is emitted by the wildfire and electrical arc and which transmits in a first way at the Earth's surface as a result of a first ratio of oxygen compounds proximate to the surface of the Earth, but which wavelength transmits in a second way in Earth's stratosphere based on a second, different ratio of oxygen compounds present in Earth's stratosphere, said apparatus comprising:

a detection arrangement disposed such that said wavelength travels from said wildfire to the detection arrangement in the presence of said first ratio of said oxygen compounds and so that sunlight arriving at said detection arrangement travels through Earth's stratosphere so as to subject the sunlight to said second ratio of oxygen compounds in a way which attenuates content of the detection wavelength[[,]] in the sunlight, said detection arrangement being configured to respond at the detection wavelength so as to enhance a detection response to the wildfire while attenuating the detection response to the wavelength to sunlight based on said first and second ratios of said oxygen compounds.

48. (new) The apparatus of claim 47 wherein the detection arrangement is configured to respond to the detection wavelength selected within a wavelength range between 230 and 280 nm, which wavelength range is (i) contained by sunlight, (ii) substantially blocked when the sunlight passes through the Earth's stratosphere and (iii) travels through the atmosphere at the surface of the Earth so as to provide for a high sensitivity of said detection arrangement to said wildfire and said electrical arc.

49. (new) The apparatus of Claim 48 wherein said detection arrangement is configured for a high sensitivity to a wavelength range between 230 nm to 280 nm and for a reduced sensitivity to a wavelength longer than 280 nm such that the detection arrangement is essentially solar blind above 280 nm where said reduced sensitivity is less than said high sensitivity.

50. (new) The apparatus of Claim 49 wherein said detection arrangement is configured to provide a wide angular sensitivity.

51. (new) The apparatus of Claim 50 wherein said detection arrangement is configured with a sensitivity within the 230-280 nm band that is at least 25 dB higher than at 280 nm and 100 dB higher than at 320 nm.

52. (new) The apparatus of claim 47 wherein said detection arrangement is characterized by a sensitivity for detecting a ten meter flame at a distance of 1600 meters.

53. (new) The apparatus of claim 47 wherein said detection arrangement includes a hemispherical field of view, at least to an approximation.

54. (new) The apparatus of claim 47 wherein said wildfire and said electrical arc are characterized by emission of ultraviolet (UV) radiation at said detection wavelength and said detection arrangement includes

a Geiger-Mueller tube (GM tube), which GM tube exhibits a given response at a maximum rated bias voltage when exposed to said detection wavelength as well as when concurrently exposed to a plurality of extraneous noise sources for use

in generating a pulse output;

a driver for operating said GM tube in a way which produces a modified response of the GM tube, thereby increasing sensitivity of the GM tube over said given response with respect to said detection wavelength as well as with respect to the plurality of extraneous noise sources so as to increase a relative number of pulses in the pulse output responsive to the detection wavelength and responsive to the extraneous noise sources, as compared to operating said GM tube at the maximum rated bias voltage;

a processing circuit for generating an intermediate output responsive to said pulse output for use in tracking a trend in the pulse output, which trend is generally responsive to the presence of at least one of said wildfire and said electrical arc, irrespective of the increase in the increase in the relative number of pulses in the pulse output that are responsive to said extraneous sources; and

an alarm apparatus for producing an alarm signal based on a predetermined characteristic of said intermediate output.

55. (new) The apparatus of Claim 54 wherein said GM tube is treated for reducing sensitivity of the GM tube to at least certain ones of said plurality of extraneous noise sources.

56. (new) The apparatus of Claim 55 wherein said GM tube exhibits a sensitivity within the 230-280 nm band that is at least 25 dB higher than at 280 nm and 100 dB higher than at 320 nm.

57. (new) The apparatus of Claim 55 wherein said GM tube is coated with an antistatic material that is transmissive with respect to said detection wavelength.

58. (new) The method of claim 42 wherein said wildfire and said electrical arc are characterized by emission of ultraviolet (UV) radiation at said detection wavelength and using, as part of said detection arrangement, a Geiger-Mueller tube (GM tube) having a given response at a maximum rated bias voltage when exposed to said detection wavelength, as well as when concurrently exposed to a plurality of extraneous noise sources, to generate a pulse output by operating said GM tube so as to produce a modified response of the GM tube, thereby increasing sensitivity of the GM tube over said given response with respect to said detection wavelength, as well as with respect to the plurality of extraneous noise sources, so as to increase a relative number of pulses in the pulse output, responsive to the detection wavelength and responsive to the extraneous noise sources, as compared to operating said GM tube at the maximum rated bias voltage.

59. (new) The method of claim 58 including generating an intermediate output responsive to said pulse output for tracking a trend in the pulse output, which trend is generally responsive to the presence of at least one of said wildfire and electrical arc, irrespective of the increase in the relative number of pulses in the pulse output that are responsive to said extraneous sources.

60. (new) The method of Claim 59 wherein said intermediate output is generated responsive to pulses occurring within an event window that continuously terminates at present time and extends backward therefrom by a selected time duration.

61. (new) The method of claim 59 including producing an alarm signal based on a predetermined characteristic of

said intermediate output.

62. (new) The method of Claim 58 wherein said GM tube includes a maximum operating voltage and wherein increasing sensitivity of the GM tube over said given response, with respect to said detection wavelength, includes operating said GM tube by applying an operating bias voltage which is greater than said maximum rated bias voltage.

63. (new) The method of Claim 58 further comprising treating said GM tube in a way which reduces a sensitivity of the GM tube to at least certain ones of said plurality of extraneous noise sources.

64. (new) The method of Claim 63 wherein said GM tube is configured for a high sensitivity to the wavelength range between 230 nm to 280 nm and for a reduced sensitivity to a wavelength longer than 280 nm such that the detection arrangement is essentially solar blind above 280 nm where said reduced sensitivity is less than said high sensitivity.

65. (new) The method of Claim 63 wherein said treating includes coating at least said GM tube with an antistatic material that is transmissive with respect to said detection wavelength.

66. (new) The method of Claim 63 wherein said treating includes

applying a pre-conditioning voltage to said GM tube, said pre-conditioning voltage being higher than said maximum rated bias voltage, and

during application of said pre-conditioning voltage, exposing said GM tube to at least certain light generating ones of said plurality of extraneous noise sources.

67. (new) The method of Claim 66 wherein exposing said GM tube includes subjecting said GM tube to sunlight during application of said pre-conditioning voltage.

68. (new) The method of claim 42 wherein said detection arrangement is configured with a sensitivity for detecting a ten meter flame at a distance of 1600 meters.

69. (new) The method of claim 42 including configuring said detection arrangement to include a hemispherical field of view, at least to an approximation.

70. (new) In a method for long-range detection of at least one of wildfires and electrical arcing from a location that is proximate to the Earth's surface, the improvement comprising:

selecting a detection wavelength that is emitted by a flame of said wildfire, said electrical arcing, and the Sun such that the detection wavelength is substantially blocked on propagation through the Earth's stratosphere as compared to propagation of the detection wavelength through the Earth's troposphere.